

IN THE CLAIMS:

Please replace claims 1, 5, 11, and 12 with the following clean copies of the amended claims. A marked up version showing the claims amendments is attached hereto in Appendix A.

1. (three times amended) A recombinant immunoconjugate, comprising a therapeutic agent or a detectable label covalently linked to a recombinant RFB4 disulfide-stabilized Fv (dsFv) having a variable heavy chain (V_H) with a cysteine at amino acid position 44, which heavy chain is at least 95% identical to SEQ ID NO:2; and a variable light chain (V_L) with a cysteine at amino acid position 100, which light chain is at least 95% identical to SEQ ID NO:4; wherein the RFB4 dsFv competes for binding to CD22 with a prototype RFB4 dsFv comprising a variable heavy (V_H) chain of SEQ ID NO:2, in which a Cys residue is substituted for Arg at position 44; and a variable light (V_L) chain of SEQ ID NO:4, in which a Cys residue is substituted for Gly at position 100, and wherein the RFB4 dsFv has 90% or greater of the binding affinity of the prototype RFB4 dsFv.

5. (three times amended) The recombinant immunoconjugate of claim 1, wherein said RFB4 dsFv comprises a V_H of SEQ ID NO:2, in which a Cys residue is substituted for Arg at position 44; and a V_L of SEQ ID NO:4, in which a Cys residue is substituted for Gly at position 100.

11. (three times amended) An expression cassette encoding a recombinant immunoconjugate comprising a sequence encoding for a toxin peptide and an antibody that binds to an RFB4 disulfide-stabilized Fv (dsFv)-having a variable heavy chain (V_H) with a cysteine at amino acid position 44, which heavy chain is at least 95% identical to SEQ ID NO:2; and a variable light chain (V_L) with a cysteine at amino acid position 100, which light chain is at least 95% identical to SEQ ID NO:4; wherein the RFB4 dsFv competes for binding to CD22 with a prototype RFB4 dsFv comprising a variable heavy (V_H) chain of SEQ ID NO:2, in which a Cys residue is substituted for Arg